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(51) INT CL<sup>6</sup>

A63B 21/055

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(56) Documents Cited

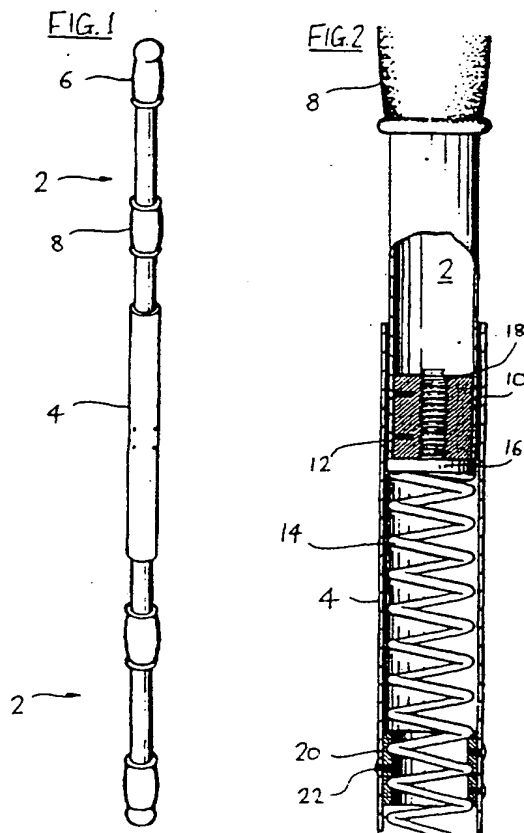
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(58) Field of Search

UK CL (Edition O ) A6M MAG MAH  
INT CL<sup>6</sup> A63B 21/02 21/05 21/055 23/12

## (54) Exercise device

(57) An exercise device is disclosed which comprises at least two elongate (preferably tubular) members coupled via a male member slidably received in a bore. Biasing means (preferably a spring) are provided within the bore and the elongate members are provided with respective handles, so that to exercise a person may grip a handle in each hand and move them together against the force of the biasing means. The bore may be provided separately 4 and both the elongate members can slide in the bore.



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FIG. 1

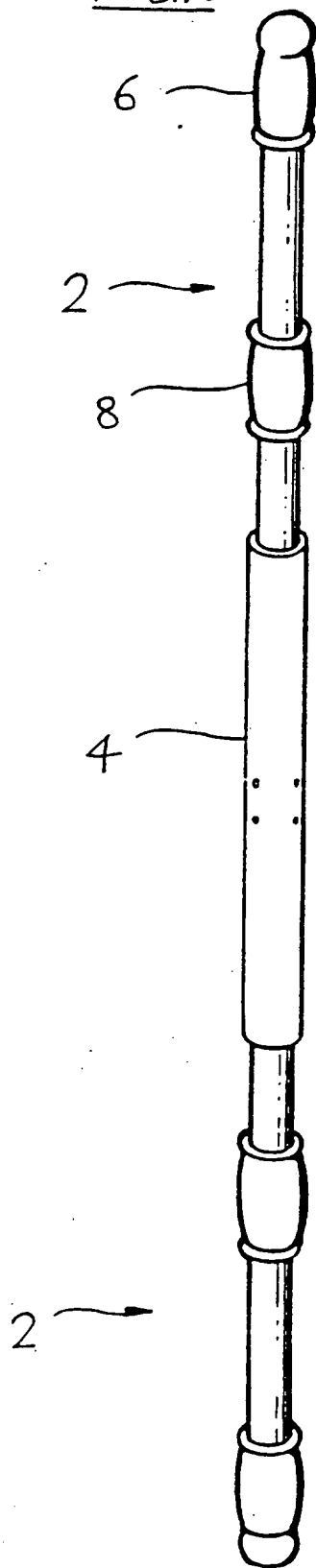


FIG. 2

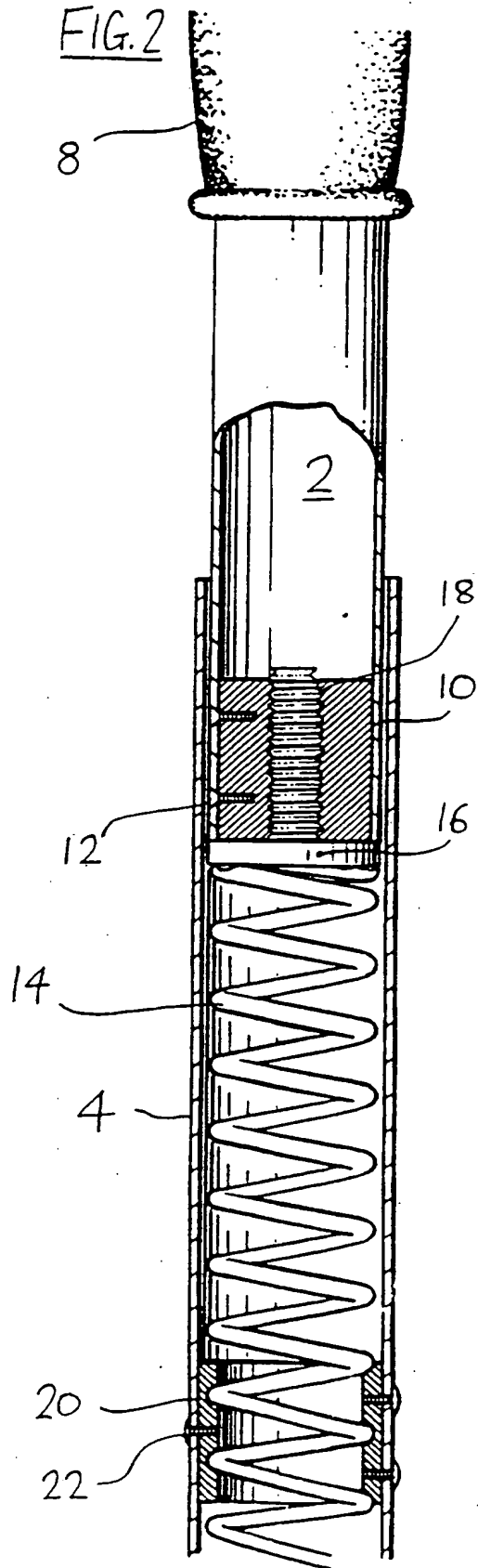
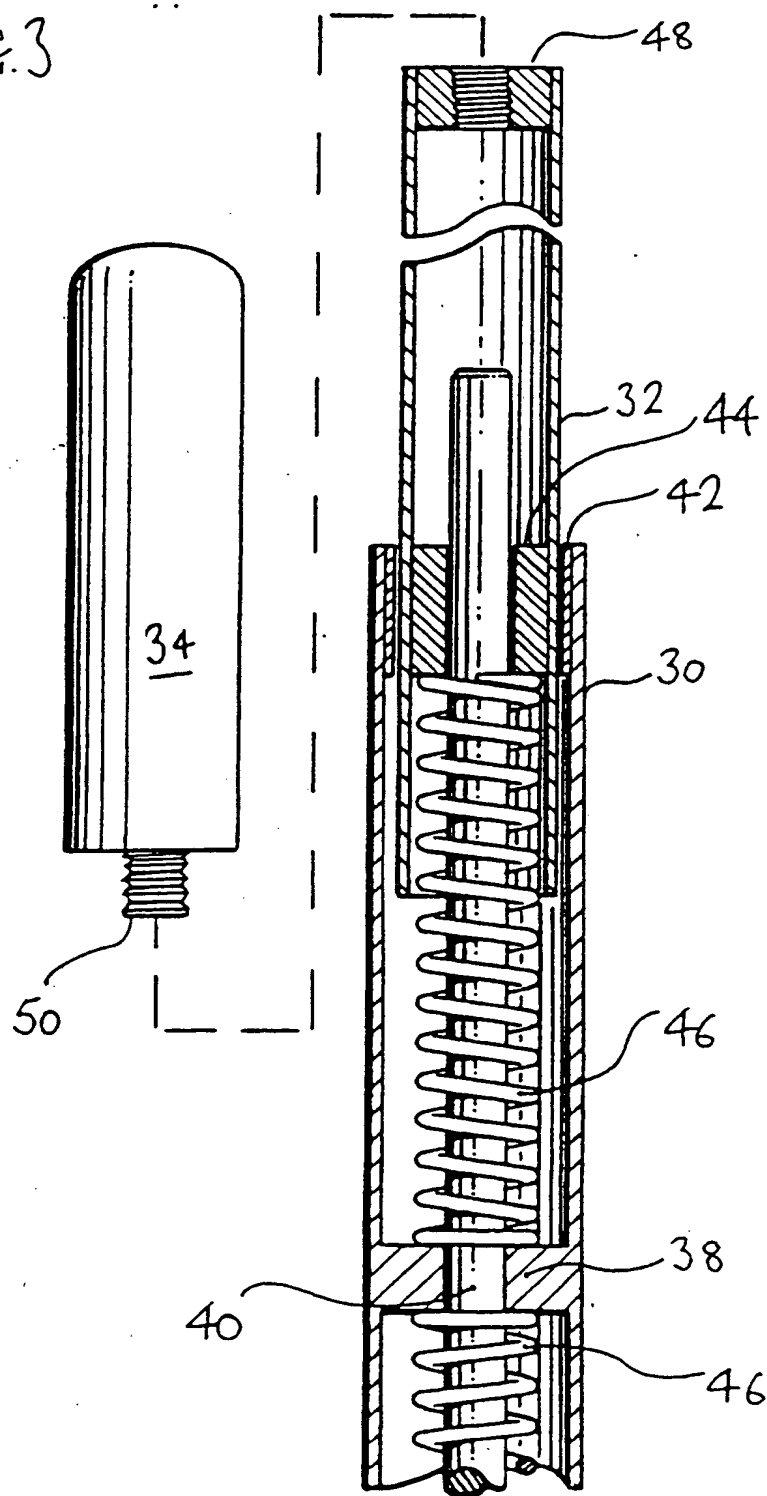


FIG. 3



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DESCRIPTION  
EXERCISE DEVICE

The present invention relates to exercise apparatus.

Modern gymnasia are filled with ingenious machinery for exercising many different human muscle groups. While these machines are undoubtedly effective, they are normally too bulky and heavy to be used outside the gym, and are in any case usually too expensive to be purchased for home use by any but the most dedicated keep fit fanatic.

Accordingly, it is an object of the present invention to provide a versatile but simple and transportable exercise device suitable for home use.

In accordance with the present invention there is provided an exercise device in the form of an elongate structure comprising first and second elongate longitudinal members, both provided with a respective handle means adapted to be gripped in the hand, means defining a longitudinal bore in which the first longitudinal member is slidably received, biasing means being provided within the device to bias the first longitudinal member relative to the second longitudinal member, so that a user can grip a respective handle in each hand and exercise by longitudinally moving the first longitudinal member

relative to the second against a force exerted by the biasing means.

The exercise device according to the present invention can be lightweight and portable, and is usable in a number of different exercises, as will be explained below.

It is particularly preferred that the exercise device according to the present invention is adapted to be used in a compressive mode in which the user moves the handles toward each other against the force of the biasing means. The biasing means preferably takes the form of a spring, more preferably a compression spring, which may be helical.

While the handle means may comprise a grip or other handle, the longitudinal members themselves may be dimensioned to be gripped in the hand and thus to serve as the handle means.

The longitudinal members are preferably tubular.

It is particularly preferred that, to provide a compact unit for storage/transport, the exercise device is adapted to be disassembled into two or more sections. To this end, means comprising a longitudinal threaded member and a complementary threaded bore may be provided for connecting the sections together.

The longitudinal bore may be defined in the

second longitudinal member. However, a preferred embodiment of the present invention further comprises a central elongate member which defines the longitudinal bore, both the first and the second longitudinal members being slidably received in the longitudinal bore.

Preferably, a rod extends axially of the longitudinal bore and is slidably received in respective bushes in the first and second elongate members.

Specific embodiments of the present invention will now be described, by way of example only, with reference to the accompanying figures in which:

Fig. 1 illustrates a first exercise device in accordance with the present invention in side view;

Fig. 2 is an enlarged, partly sectional view of part of the device illustrated in Fig. 1; and

Fig. 3 is a partly sectional view of part of a second embodiment of the present invention.

The first embodiment illustrated in Figs. 1 and 2 comprises two elongate, tubular, cylindrical handles 2 which are slidably received in respective ends of a central tube 4.

Each handle is provided with a pair of cylindrical hand grips 6, 8, which surround respective portions of the handle, one hand grip 6 lying at the outward end

of the handle (the end furthest from the central tube 4) and one hand grip 8 lying further inboard.

The innermost end of each handle receives a respective internally threaded bush 10, which is fixedly located therein by radial screws or pins 12.

Between the inner ends of the handles 2, within the central tube 4, lies a helical spring 14. Two connectors, each comprising a faceplate 16 and, projecting therefrom, a threaded rod 18, are used to link the spring to the handles. The two ends of the spring are each welded to a respective faceplate 16, and upon assembly of the exercise device respective threaded rods 18 are screwed into respective bushes 10.

The exercise device can therefore be quickly assembled for use or disassembled for transport and storage. When the device is disassembled so that it consists of three separate tubes, its length is very substantially reduced so it forms a compact unit which can easily be carried in the hand (preferably an appropriate bag or similar would be provided) or stored in a cupboard, drawer etc.

To prevent the spring 14 and the handles 2 secured thereto from sliding uncontrollably relative to the control tube 4, there is provided a spring retaining bush 20 whose inner surface is shaped or threaded to

engage the spring and which is received within the central tube 4 and retained in position therein by radial screws/pins 22.

To exercise, the user uses his muscles to repeatedly move one handle relative to the other, such motion being resisted by the spring 14.

A variety of different actions can be performed. For example, the device may be placed behind the user's neck, the handles being grasped in respective hands of the user who then repeatedly exerts himself to force the handles inward (towards each other) and relaxes to allow them to move outward back to their equilibrium positions. This compressive action made possible by the present invention is particularly advantageous.

Different muscle groups may be exercised by using the same grip but holding the device above the head or in front of the body during exercise.

In addition, the device may be used in tension instead of compression - that is, the user may take any of the positions described above and exert himself by repeatedly drawing the handles 2 apart.

Still another alternative is to place one end of the device on the ground in front of the user, to grip the opposite end in one hand and to repeatedly depress said opposite end and release same.



The device may also be used in numerous known exercises which require the use of a baton - that is, it can serve the same role in such exercises as a simple rigid baton.

To adapt the present invention to users of differing sizes and strengths, the length of the device may be varied and/or a series of springs of differing lengths/stiffnesses may be provided.

The second embodiment of the present invention illustrated in Fig. 3, will now be described.

The second embodiment is in many respects similar to the first, but comprises five sections: a tubular central section 30, two slide sections 32 received in the central section 30, and two removable handle sections 34 releasably secured to outer ends of the respective slide sections 32.

The tubular central section 30 contains, half way along its length, a fixing bush 38 in which is mounted and retained a rod 40, which projects beyond both ends of the central section. The central section further contains a pair of outer bushes 42, located at or toward the ends of the central section.

The slide sections 32 are each received in a respective end of the central section 30, being a sliding fit in the outer bushes 42. Further, each slide section 32 contains a respective slide bush 44

positioned some way along the slide section and having an axial bore which is a sliding fit on the rod 40.

Thus, when the slide sections are received in the central section, they engage with it in two regions - at the outer bushes 42, which embrace the slide sections themselves, and at the slide bushes 44, which embrace the rod 40. The slide sections are free to slide longitudinally, but prevented from motion in other directions.

Two springs 46 are disposed between and act on the fixing bush 38 and respective slide bushes 44, being contained in the central/slide sections and projecting through the outer bushes 42. The springs 46 provide the necessary biasing of the slide sections 32, and thus of the handle sections 34.

According to the present embodiment, the springs are helical. Other biasing means could, however, be used.

Outer ends of both slide sections 32 contain respective ferrules 48, each fixedly mounted therein and having a threaded axial bore.

The handle sections 34 are both tubular and have, projecting from their inner end faces, threaded rods 50 which can be screwed into the ferrules 48 to assemble the device or unscrewed for disassembly, to leave a relatively compact three piece unit convenient

to transport or store.

The present invention thus makes possible a highly versatile yet inexpensive exercise device which is easy to transport and store.

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CLAIMS

1. An exercise device in the form of an elongate structure comprising first and second elongate longitudinal members, both provided with a respective handle means adapted to be gripped in the hand, and means defining a longitudinal bore in which the first longitudinal member is slidably received, biasing means being provided within the device to bias the first longitudinal member relative to the second longitudinal member, so that a user can grip a respective handle in each hand and exercise by longitudinally moving the first longitudinal member relative to the second longitudinal member against a force exerted by the biasing means.

2. An exercise device as claimed in claim 1, which is adapted to be used in a compressive mode in which the user moves the handles toward each other against the force of the biasing means.

3. An exercise device as claimed in claim 1 or claim 2, in which the biasing means comprises a spring.

4. An exercise device as claimed in any preceding claim, wherein the longitudinal members are dimensioned to be gripped in the hand and thus to serve as the handle means.

5. An exercise device as claimed in any

preceding claim, wherein the longitudinal members are tubular.

6. An exercise device as claimed in any preceding claim which is adapted to be disassembled into two or more sections.

7. An exercise device as claimed in claim 6, wherein means comprising a longitudinal threaded member and a complementary threaded bore are provided for connecting the sections together.

8. An exercise device as claimed in any preceding claim, further comprising a central elongate member which defines the longitudinal bore, both the first and the second longitudinal members being slidably received in the longitudinal bore.

9. An exercise device as claimed in claim 8, wherein a rod extends axially of the longitudinal bore and is slidably received in respective bushes in the first and second elongate members.

10. An exercise device substantially as herein described with reference to, and as illustrated in, Figs. 1 and 2 or Fig. 3.

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Application No: GB 9624481.9  
Claims searched: 1 to 10

Examiner: Alan Blunt  
Date of search: 12 February 1997

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): A6M (MAG, MAH)

Int Cl (Ed.6): A63B 21/02, 21/05, 21/055, 23/12

Other:

### Documents considered to be relevant:

| Category | Identity of document and relevant passage | Relevant to claims |
|----------|---|--------------------|
| X        | GB2240483A (VERIMARK) - whole document    | 1 to 5             |
| X        | GB2077115A (COMPRET) - whole document     | 1 to 5             |
| X        | GB1365888 (COMPRET) - whole document      | 1 to 7             |
| X        | GB376607 (DUKE) - Figures 1 to 4          | 1 to 10            |
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